

60130-1978
ZS0009IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An exhaust system for a diesel propulsion engine having an exhaust system equipped with comprising:

a discontinuously regenerating exhaust gas purification system including a catalytic converter unit that burns diesel fuel catalytically comprising wherein the discontinuously regenerating exhaust gas purification system periodically regenerates a filter;

a fuel evaporator unit connected upstream from the catalytic converter unit and including an electrical heating element, wherein the fuel evaporator unit is connected adapted for connection to a the vehicle fuel tank by a fuel line and installed with spatial separation from an exhaust gas carrying component; and

a fuel vapor feeding channel upstream of the catalytic converter unit, wherein the fuel vapor feeding channel discharges into the exhaust gas carrying component, and extends between the fuel evaporator unit and the exhaust gas carrying component.

2. (Currently Amended) The exhaust system according to Claim 1, wherein the exhaust gas purification system further filter comprises: a discontinuously regenerating particulate filter, and, including

an oxidizing converter unit connected upstream of the discontinuously regenerating particulate filter, wherein, the oxidizing converter unit heats the exhaust gases flowing toward the discontinuously regenerating particulate filter through catalytic combustion of the fuel vapors produced by the fuel evaporator unit.

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3. (Currently Amended) The exhaust system engine according to Claim 1 wherein the discontinuously regenerating exhaust gas purification system further includes a discontinuously regenerating NO_x accumulating converter.
4. (Currently Amended) The exhaust system engine according to claim 1 wherein the fuel vapor feeding channel discharges into a cross-sectional restriction of the exhaust gas carrying component.
5. (Currently Amended) The exhaust system engine according to claim 1 further including a jacket tube, and wherein the fuel evaporator unit comprises an upright mounted glow plug which is encompassed by the jacket tube to define an annular gap, and the fuel line and the fuel vapor feeding channel discharge into the annular gap.
6. (Currently Amended) The exhaust system engine according to Claim 5 wherein an inside width of the annular gap is between 0.6 mm and 2.0 mm.
7. (Currently Amended) The exhaust system engine according to Claim 5 further comprising a spiral guide element located in the annular gap.
8. (Currently Amended) The exhaust system engine according to claim 5 wherein an end of the fuel vapor feeding channel oriented toward the fuel evaporator unit extends into the jacket tube.

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9. (Currently Amended) The exhaust system engine according to claim 5 further including an insulator, and wherin the jacket tube is encompassed by the insulator.
10. (Currently Amended) The exhaust system engine according to claim 5 wherein the fuel evaporator unit further comprises a preheating stage connected upstream of the fuel evaporator to evaporate the fuel.
11. (Currently Amended) The exhaust system engine according to Claim 10 wherein the preheating stage comprises an intermediate accumulator with a heating device.
12. (Currently Amended) The exhaust system engine according to Claim 11 wherein the preheating stage comprises a heat exchanger exposed to an the exhaust gas stream.
13. (Currently Amended) The exhaust system engine according to claim 1 wherein the fuel evaporator unit comprises a pressure vessel having a heating device, and two valves control flow through the fuel evaporator unit.
14. (Currently Amended) The exhaust system engine according to Claim 13 wherein the fuel evaporator unit comprises a secondary heater connected downstream of the fuel evaporator unit for the fuel vapors discharged from the pressure vessel.
15. (Currently Amended) The exhaust system engine according to claim 1 wherein a ratio of a cross-section of the fuel vapor feeding channel to a cross-section of the exhaust gas

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carrying component is between 0.006 and 0.015 near an outlet to the fuel vapor feeding channel.

16. (Currently Amended) The exhaust system engine according to Claim 2 wherein the oxidizing converter unit and the discontinuously regenerating particulate filter are installed in separate housings.
17. (Currently Amended) The exhaust system engine according to Claim 2 wherein the oxidizing converter unit and the discontinuously regenerating particulate filter are installed in a common housing.
18. (Currently Amended) The exhaust system engine according to Claim 17 wherein the oxidizing converter unit is represented by a catalytically coated area of the discontinuously regenerating particulate filter.
19. (Currently Amended) The exhaust system engine according to Claim 2 further including a controller and a temperature sensor located between the oxidizing converter unit and the discontinuously regenerating particulate filter and connected to the controller which in the a regeneration mode controls a delivery rate of a fuel pump that feeds the fuel evaporator unit depending on an exhaust gas temperature measured upstream of the discontinuously regenerating particulate filter .

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20. (Currently Amended) The exhaust system engine according to claim 2-4 wherein the cross-sectional restriction is a venturi nozzle.
21. (New) The exhaust system according to claim 1 wherein the fuel evaporator unit is only used to change fuel from a liquid state to a vapor state.
22. (New) A discontinuously regenerating exhaust gas purification system for a diesel propulsion engine comprising:
 - a pre-tube adapted for connection to a manifold;
 - a catalytic converter operably connected to the pre-tube, the catalytic converter including an oxidizing converter unit;
 - a filter assembly operably connected to the catalytic converter, the filter assembly including a discontinuously regenerating particulate filter that is located downstream from the oxidizing converter unit;
 - a fuel evaporator unit including an electrical heating element that is located upstream of the catalytic converter wherein the fuel evaporator unit is adapted for connection to a fuel tank and is positioned with spatial separation from an exhaust gas carrying component;
 - a fuel vapor feeding channel located upstream of the catalytic converter and extending between the fuel evaporator unit and the exhaust gas carrying component wherein the fuel vapor feeding channel discharges into the exhaust gas carrying component; and

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a controller controlling delivery of fuel to the fuel evaporator unit to periodically regenerate the discontinuously regenerating particulate filter.

23. (New) The system according to claim 22 including a switch adapted to connect the fuel evaporator unit to a power source wherein the switch is controlled by the controller to initiate a regeneration mode.